HERPC

Hull & East Riding Prescribing Committee

Guideline Emergency Steroid Cards

1. Background

Recent guidance on the prevention and emergency management of adult patients with adrenal insufficiency (AI) (Simpson 2020, DOI: https://doi.org/10.7861/clinmed.2019-0324) outlined the general issues relating to adrenal crisis. This was subsequently supported by an NHS England and NHS Improvement national patient safety alert (NatPSA/2020/005/NHSPS) promoting the use of a new Steroid Emergency Card to support the early recognition and treatment of adrenal crisis in adults (NHSE/I 2020).

This safety alert required that:

1. **All organisations that initiate steroid prescriptions should** review their processes/ policies and their digital systems/software and prompts to ensure that prescribers issue a Steroid Emergency Card to all eligible patients.

2. **Prescribers undertaking standard/scheduled reviews (eg in clinics or when authorising repeat prescriptions) should** review their processes/policies and their digital systems/software and prompts to ensure all eligible patients prescribed steroids have been assessed, and where necessary issue a Steroid Emergency Card.

Further to this, a detailed guidance on 'Exogenous steroids, adrenal insufficiency and adrenal crisis-who is at risk and how should they be managed safely' was published by jointly by the Society for Endocrinology (SfE) Steroid Emergency Care working group and Specialist Pharmacy Services (SPS).

This document is intended to be a quick reference guide to the above guidance for use by busy frontline clinical staff.

2. Who should be provided with the Steroid Emergency Card?

The following groups of patients taking exogenous steroids are at risk of adrenal insufficiency and should be provided with a Steroid Emergency Card.

Table 1. Threshold doses of steroid preparations

Category	Preparation	Threshold dose/frequency
Long-term oral glucocorticoids (4 weeks or longer)	Prednisolone	≥ 5 mg/day
	Prednisone	≥ 5 mg/day
	Methylprednisolone	≥ 4 mg/day
	Hydrocortisone	≥ 15 mg/day
	Dexamethasone	≥ 0.5 mg/day
	Beclometasone	≥ 625 micrograms/day
	Betamethasone	≥ 750 micrograms/day
	Budesonide	≥ 1.5 mg/day
	Deflazacort	≥ 6 mg/day
Repeated short courses of oral steroids one week or longer (≥ 3/year within the last 12 months, and 12 months after stopping)	Prednisolone	≥ 40 mg/day
	Prednisone	≥ 40 mg/day
	Methylprednisolone	≥ 32 mg/day
	Hydrocortisone	≥ 120 mg/day
	Dexamethasone	≥ 4 mg/day
	Beclometasone	≥ 5 mg/day
	Betamethasone	≥ 6 mg/day
	Budesonide	≥ 12 mg/day
	Deflazacort	≥ 48 mg/day
3 or more intra-articular/IM glucocorticoid injections within the last 12 months, and for 12 months after stopping	Any drug/dose	
Repeated courses of dexamethasone as an antiemetic in oncology regimens, and for 12 months after stopping. The Steroid Emergency Card should be given on first cycle of dexamethasone when future cycles are anticipated.	Dexamethasone	> 6 mg/day for 4 days every 3 weeks.
Prolonged courses of dexamethasone (>10 days) for the treatment of severe Covid-19	Dexamethasone	
Inhaled corticosteroid (ICS)	Beclometasone (as non-proprietary, Clenil, Easihaler, or Soprobec)	> 1000 micrograms/day (or 800-1000 micrograms/day if also taking nasal steroids).

Category	Preparation	Threshold dose/frequency
	Beclometasone (as Qvar, Kelhale or Fostair)	> 500 micrograms/day (400-500 micrograms/day if also taking nasal steroids) Check if using combination inhaler and MART regimen.
	Budesonide	> 1000 micrograms/day (800-1000 micrograms/day if also taking nasal steroids) Check if using combination inhaler and MART regimen.
	Ciclesonide	> 480 micrograms/day (320-480 micrograms/day if also taking nasal steroids).
	Fluticasone propionate	≥ 500 micrograms/day (400-500 micrograms/day if also taking nasal steroids).
	Fluticasone furoate (as Trelegy and Relvar)	> 200 micrograms/day (100-200 micrograms/day if also taking nasal steroids)
	Mometasone	> 800 micrograms/day (400 micrograms/day if also taking nasal steroids)
Topical high-dose potent or very potent glucocorticoid creams & ointments (≥ 200g/ week) potent or very potent glucocorticoids used across a large area of skin for 4 weeks or more, or factors increasing absorption assessed on a case by case basis, and for 12 months after stopping	Beclometasone dipropionate 0.025%	
	Betamethasone dipropionate 0.05% and higher [incl Dalonev, Diprosone, Dovobet, Enstilar, in combination with clotrimazole (incl Lotriderm) and salicylic acid (incl Diprosalic)]	
	Betamethasone valerate 0.1% and higher [incl Audovate, Betacap, Betesil, Betnovate, Bettamousse, and in combination with clioquinol, fusidic acid (incl Fucibet, Xemacort) or neomycin]	
	Clobetasol propionate 0.05% and higher [incl. Clarelux, ClobaDerm, Dermovate, Etrivex and in combination with neomycin and nystatin]	
	Diflucortolone valerate 0.1% [incl Nerisone]	
	Diflucortolone valerate 0.3% [incl Nerisone Forte]	
	Fluocinonide 0.05% [incl Metosyn]	
	Fluocinolone acetonide 0.025% [(incl. Synalar) and in combination with clioquinol (incl Synalar C)]	
	Fluticasone propionate 0.05% [incl Cutivate]	
	Hydrocortisone butyrate 0.1% [incl Locoid]	
	Mometasone 0.1% [incl Elocon]	
	Triamcinolone acetonide 0.1% [incl Aureocort]	
Potent or very potent topical glucocorticoids applied to the rectal or genital areas for more than 4 weeks, and for 12 months after stopping.	Topical steroids above	30g per month

Category	Preparation	Threshold dose/frequency
Rectal treatments which contain significant amounts of glucocorticoids for more than 4 weeks and for 12 months after stopping.	Budesonide enema	2 mg/dose
	Budesonide rectal foam	2 mg/dose
	Prednisolone rectal solution	20 mg/dose
	Prednisolone suppositories	5 mg/dose
Patients prescribed any form of ongoing glucocorticoid treatment[1] in conjunction with medicines known to be potent CYP3A4 inhibitors.		

Other considerations

Patients prescribed any form of ongoing glucocorticoid treatment, at any dose, in conjunction with any of the medications below which are potent CYP3A4 inhibitors, should be issued with a Steroid Emergency Card.

Table 2. CYP3A4 enzyme inhibitors

Class	Drugs
Potent protease inhibitors	Atazanavir Darunavir Fosamprenavir Ritonavir ± lopinavir Saquinavir Tipranavir
Antifungals	Itraconazole Ketoconazole Voriconazole Posaconazole
Antibiotics	Clarithromycin (long-term courses only)

3. WHO SHOULD BE GIVEN ADVICE ON 'SICK DAY RULES' IN ADDITION TO THE STEROID EMERGENCY CARD?

1 Patients taking oral prednisolone ≥ 5mg (or equivalent dose of other oral glucocorticoids, see **Table 1**) for more than 4 weeks, and for 12 months after stopping oral steroids

2 Patients receiving intra-articular or intramuscular glucocorticoid injections who also use glucocorticoids by another route (eg inhaled steroids, oral steroids etc.).

[1] Except small amounts of a mild or moderate topical glucocorticoid which should be assessed on a case by case basis.

3 Concomitant use of CYP3A4 enzyme inhibitors (**Table 2)** and glucocorticoids in any route of administration except small amounts of topical mild or moderate potency glucocorticoid which should be assessed on a case by case basis.

4 Patients with respiratory disease such as COPD and asthma on high dose inhaled steroids receiving repeated courses of oral steroids (3 or more courses over the past 6 months).

What are the sick day rules?

Rule 1. **If you are ill enough to need to stay in bed, OR if you have an infection that makes you unwell and you have been given antibiotics, increase your usual steroid dose for the time that you are unwell.**

If you usually take less than 5mg prednisolone daily, **take 10mg daily** while unwell.

If you usually take 5-10mg daily, **double** your usual dose.

If you usually take **between 10mg and 19mg** prednisolone, increase to **20mg**.

If you usually take **20mg or more**, stay on your usual dose (**no need to increase**).

Rule 2. **If you might not absorb your steroid tablets, or you are very ill in hospital, you will need an injection of steroid that same day AND seek medical advice about when to return to your normal dose.**

If you have severe **diarrhoea or vomiting** that lasts more than a day.

If you have a **major injury** or **major surgery**.

During childbirth

Your GP may be able to prescribe a hydrocortisone injection for you to keep at home if they think you are at high risk of adrenal insufficiency and you are confident in injecting yourself. Otherwise, for severe diarrhoea or vomiting, you may need to call 999 or 111 and show them the new NHS emergency steroid card in this leaflet.

4. WHO SHOULD HAVE STEROID COVER FOR INTERCURRENT ILLNESS, INVASIVE PROCEDURES AND SURGERY?

Any patients carrying a Steroid Emergency Card should have steroid cover when acutely unwell or if having surgery or undergoing an invasive procedure. (Woodcock et al).

1 In an emergency, give hydrocortisone 100 mg IV or IM immediately, followed by 24-hour continuous IV infusion of 200 mg hydrocortisone in 5% dextrose or 50 mg hydrocortisone IV or IM every 6 hours (double the dose if morbidly obese).
2 Rapid hydration with sodium chloride 0.9%
3 Discuss with endocrinology team: there is an on-call endocrinology registrar or consultant available 24 hours a day, 7 days a week. Contact via hospital switchboard.

For elective procedures, steroid cover should be provided as per **Table 3**.

Table 3. Recommended doses for intra- and postoperative steroid cover in adults with adrenal insufficiency.

Procedure	Peri-operative needs	Postoperative needs
Lengthy major surgery with long recovery time, eg open heart or major bowel surgery	100 mg hydrocortisone IV or IM at induction, followed by: ▪ 100 mg every 6 hours or ▪ Continuous 200 mg/24h IVI	100mg IV or IM every 6 hours **or** continuous IV infusion 200mg/24 hours or until able to eat and drink normally *(discharged from ITU)* If well, then double oral dose for 48+ hours. Then taper and return to normal dose.
Major surgery with rapid recovery *eg caesarean section, joint replacement, IVF egg extraction*	100 mg hydrocortisone IV or IM at induction, followed by: ▪ 50 mg every 6 hours or ▪ Continuous 200 mg/24h IVI	50 mg IV or IM every 6 hours **or** continuous infusion 200mg/24 hours for 24 - 48 hours for 24 - 48 hours *(or until able to eat and drink normally)* If well, then double oral dose for 24 - 48 hours. Then return to normal dose.
Labour and vaginal birth	100mg hydrocortisone IV or IM at onset of active labour, immediately followed by continuous IV infusion 200mg/24 hours or 50 mg IV or IM 6 hourly until delivery	Double oral dose for 24 - 48 hours after delivery. If well, then return to normal dose.

Procedure	Peri-operative needs	Postoperative needs
Minor surgery eg cataract surgery, hernia repairs, laparoscopy with local anaesthetic	100mg hydrocortisone IV or IM just before anaesthesia	Double oral dose for 24 hours. Then return to normal dose.
Invasive bowel procedures, eg colonoscopy, barium enema	100mg hydrocortisone IV or IM at commencement	Double dose oral medication for 24 hours. Then return to normal dose.

5. Ordering the new red Steroid Emergency Card (Adult)

The Emergency Steroid Card can be ordered from the usual suppliers:
a) NHS Forms at NHS Business Services Authority (NHS BSA)
http://www.nhsforms.co.uk/
b) Primary Care Support England (PCSE online)
https://secure.pcse.england.nhs.uk/_forms/pcsssignin.aspx

APPROVAL PROCESS

Written by:	**HUTH guideline written by Dr Mo Aye; adapted for HERPC template by Jane Morgan – Interface Pharmacist**
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Approved by:	**MMIG, HUTH guidance approved by D&TC, SMPC and CEPPDC**
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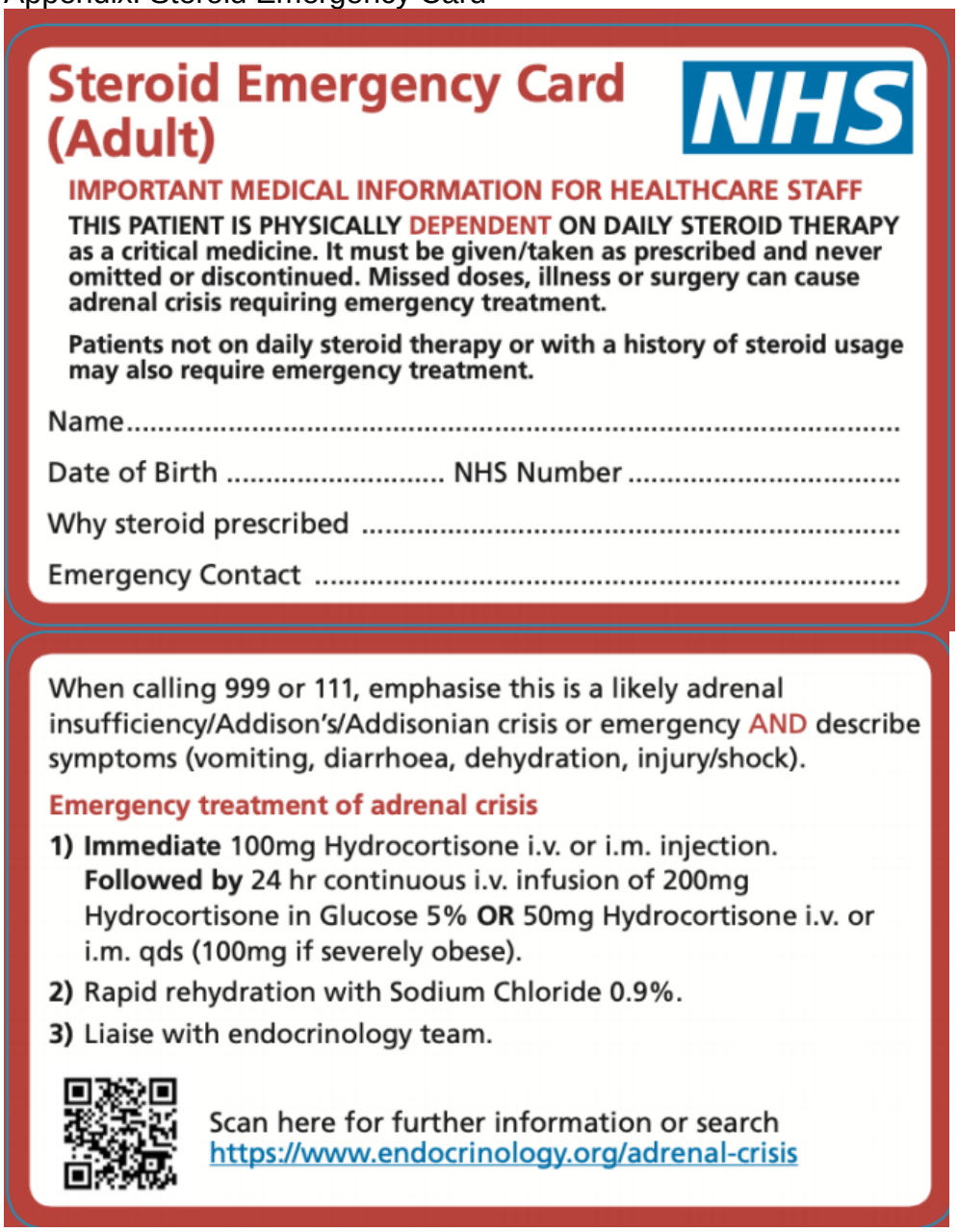
Appendix. Steroid Emergency Card



Steroid Emergency Card (Adult)

NHS

IMPORTANT MEDICAL INFORMATION FOR HEALTHCARE STAFF

THIS PATIENT IS PHYSICALLY DEPENDENT ON DAILY STEROID THERAPY as a critical medicine. It must be given/taken as prescribed and never omitted or discontinued. Missed doses, illness or surgery can cause adrenal crisis requiring emergency treatment.

Patients not on daily steroid therapy or with a history of steroid usage may also require emergency treatment.

Name.....

Date of Birth ..... NHS Number .....

Why steroid prescribed .....

Emergency Contact .....

When calling 999 or 111, emphasise this is a likely adrenal insufficiency/Addison's/Addisonian crisis or emergency AND describe symptoms (vomiting, diarrhoea, dehydration, injury/shock).

Emergency treatment of adrenal crisis

1) **Immediate** 100mg Hydrocortisone i.v. or i.m. injection. **Followed by** 24 hr continuous i.v. infusion of 200mg Hydrocortisone in Glucose 5% **OR** 50mg Hydrocortisone i.v. or i.m. qds (100mg if severely obese).
2) Rapid rehydration with Sodium Chloride 0.9%.
3) Liaise with endocrinology team.

Scan here for further information or search https://www.endocrinology.org/adrenal-crisis